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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,938	12/29/2000	Han-Ming Wu	42390.P10058	9229

7590

11/01/2002

Brent E. Vecchia
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Seventh Floor
12400 Wilshire Boulevard
Los Angeles, CA 90025-1026

EXAMINER

NGUYEN, HUNG

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 11/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,938

Applicant(s)

WU ET AL.

Examiner

Hung Henry V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Prosecution Status

1. This office action is Non Final because the Examiner has changed the art and advanced new arguments.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (fig.1) in view of Miyaji et al (U.S.Pat. 5,559,584).

With regard to claims 1-17, AAPA discloses all basic claimed features of the invention comprising: a mask protective device (100) including a pellicle (120) that is transparent to a photolithographic radiation; a predetermined pattern mask (110) including a pattern defined at least in part by an opaque portion that is opaque to the photolithography radiation; a wall (130) which connects the mask protective device with the patterned mask wherein the mask protective device, the wall and the patterned mask defining a gas filled enclosure (140) and an orifice (150) is used to equalize the pressure across the pellicle. AAPA does not expressly disclose "a vent to add a first gas to the enclosure and to remove the a second gas from the enclosure, the first gas having a different gas phase composition than the second gas". Klebanoff et al discloses an exposure system having a reticle protective system (100) with an enclosure (110) having a vent for adding a first gas to the enclosure and to remove a second gas from the

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enclosure. As clearly stated in the previous office action, supplying inert gas having less absorption spectrum in the exposure wavelength and high transmissivity of the photolithographic radiation, such as nitrogen, argon, etc... into the is well known in the art. For instance, Miyaji et al teaches an exposure apparatus and teaches replacing air containing oxygen in the optical path with "inert gas such as nitrogen to avoid the decrease in the transmittance of light or the generation of ozone in the exposure apparatus" (see Miyaji col.1, line 1 thru col.4, line 51 and figs.1 and 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of AAPA (Fig.1) and Kelbanoff and Miyaji to obtain the invention as specified in claims 1-15. It would have been obvious to a skilled artisan to employ "a vent" as taught by Klebanoff to the enclosure of AAPA and to add the inert gas to the enclosure and remove the air from the enclosure as suggested by Miyaji for the purpose of keeping the mask from being contaminated and increasing the transmittance of light and whereby improving the quality of the images to be printed.

4. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sego (U.S.Pat. 5,422,704) in view of Miyaji et al (U.S.Pat. 5,559,584).

With regard to claims 1-17, Sego (fig.2) discloses an apparatus comprising substantially all of the limitations of the instant claims including: a patterned reticle (200), a reticle protective membrane (230), a wall (240) which is connected to the reticle protective device and the pattern reticle via an adhesive material (see col.3, line 50) and defining a gas filled enclosure; a vent (261-264) for pressure equalization between the area outside of the enclosure and the area inside enclosure. Sego lacks to disclose

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“adding the first gas to the enclosure and removing the second gas from the enclosure where the first gas having different gas phase composition than the second gas”. As discussed, Miyaji et al teaches an exposure apparatus and teaches replacing air containing oxygen in the optical path with “inert gas such as nitrogen to avoid the decrease in the transmittance of light or the generation of ozone in the exposure apparatus” (see Miyaji col.1, line 1 thru col.4, line 51 and figs.1 and 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Sego and Miyaji to obtain the invention as specified in claims 1-17. It would have been obvious to a skilled artisan to replace the gas/air inside the enclosure of Sego with the inert gas as suggested by Miyaji for the purpose of keeping the mask from being contaminated and increasing the transmittance of light and whereby improving the quality of the images to be printed.

Response to Amendment


5. Applicant's amendment filed July 29, 2002 have been entered. With respect to the prior art rejection, applicant's arguments have been carefully reviewed but have been traversed in view of the new ground rejections as set forth above.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847. Any inquiry of a general

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nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.


Hung Henry V Nguyen
Examiner
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hvn
October 30, 2002